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the combustible component (Qo), i.e., dry, ashless peat, and
calorific value of peat (as used) (Qw).   Of these W varied most.
The average W of hydraulically mined peat (hydropeat) was 36.5%
with the bulk (63%) varying within 3-04-%.   The average A
values of the 3 grades of peat were 10.4, 8.7, and 7.5%, respectively.
The variation within the bulk, 61, 70, and 80% was 7-12, 6-11, and
3-9%.   The Qo values were 5610, 5660, and 5660, and 5650 kg.-cal.,
and the respective Qw values 2780, 2350, and 2950 kg.-cal.
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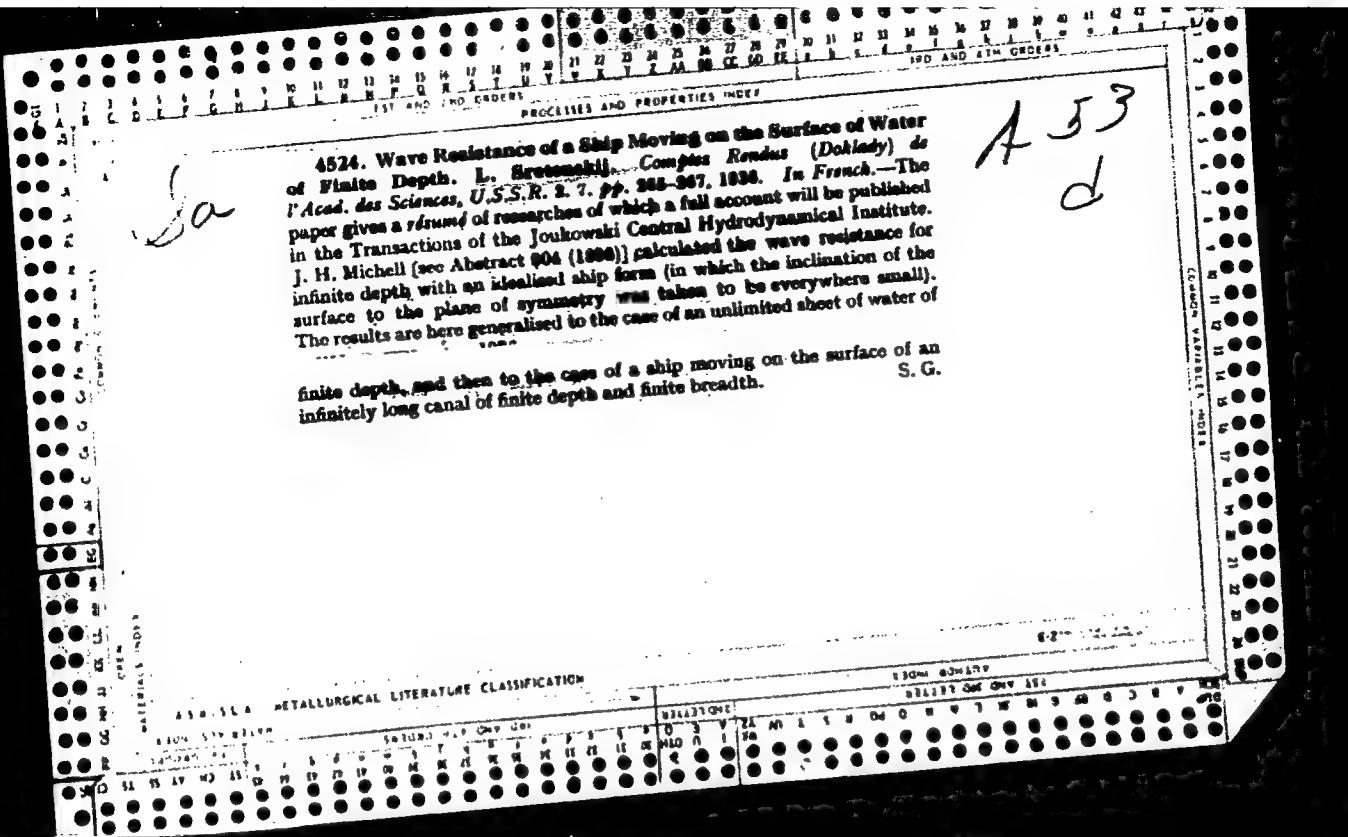"Wave Motion of Fluids," ONTi, Moscow, 1936

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Sretensky, L. N. Sur la démonstration du théorème de Hilbert-Schmidt. C. R. (Doklady) Acad. Sci. URSS (N.S.) 52, 191–193 (1946).

A well-known result in the Hilbert-Schmidt theory of integral equations is that, if $K(s, t)$ is a symmetric $\mathfrak{L}^2$ kernel, and $f(t)$ is an $\mathfrak{L}^2$ function orthogonal to all the characteristic functions $\varphi_i(t)$ of K, then $\int K(s, t)f(t)dt = 0$. The author deduces this by a roundabout method from the Hilbert formula, which may be written in Hilbert space notation as

$$(Kf, g) = \sum_{i=1}^{\infty} (f, \varphi_i)(g, \varphi_i)/\lambda_i,$$

the λ_i being the characteristic values of K. He claims the merit of avoiding all mention of the iterated kernels K^n.

The result can be proved from the author's assumptions by the following argument. Let $(f, \varphi_i) = 0$ (all i). Then $(Kf, g) = \sum_{i=1}^{\infty} \lambda_i^{-1}(f, \varphi_i)(g, \varphi_i) = 0$ for all $\mathfrak{L}^2$ functions g. Take $g = Kf$, and we have $\|Kf\|^2 = 0$, $Kf = 0$.   *F. Smithies.*

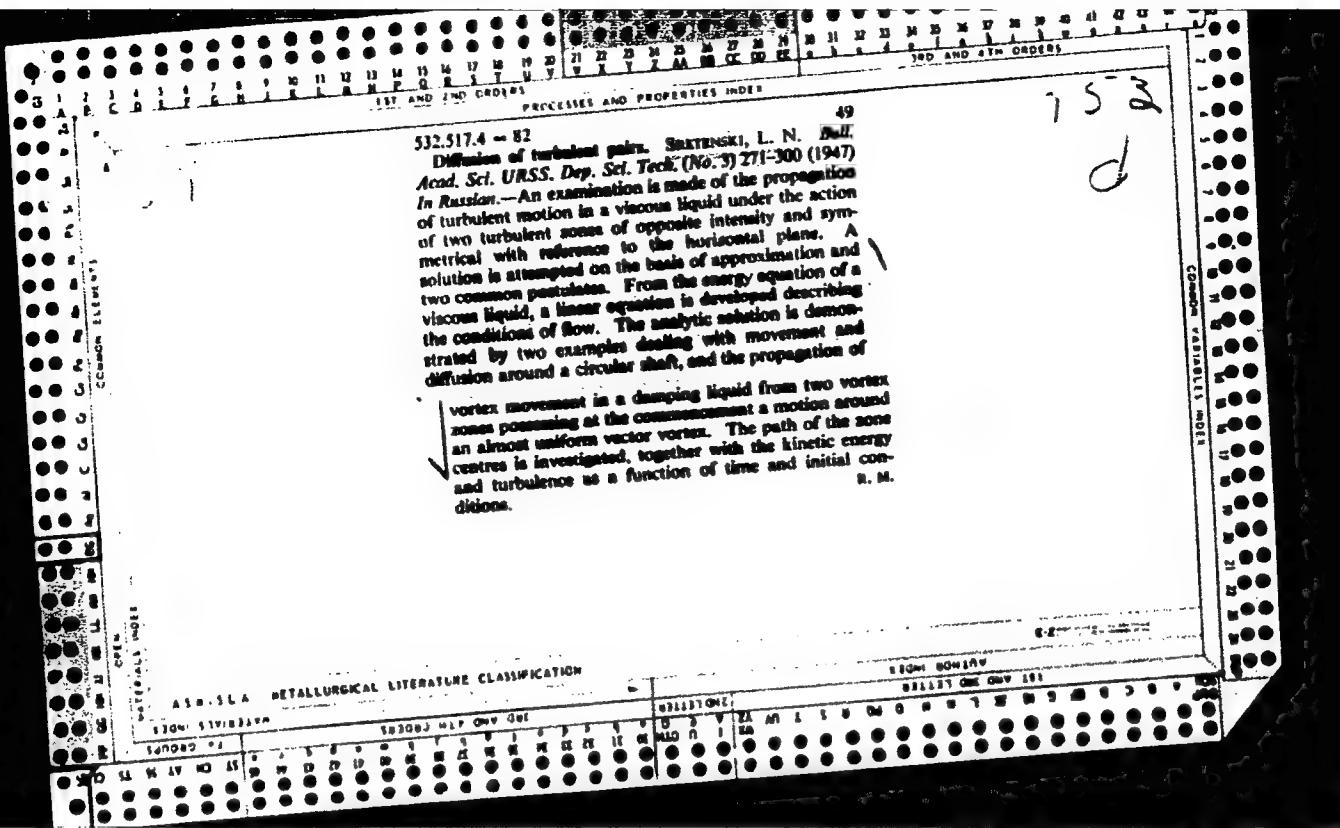Source: Mathematical Reviews,   Vol   No.

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Circular Path Under the Surface of a Fluid. Cr. Acad. Sci. URSS, 1946,
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SRTE

532.517.4 — 82

Diffusion of turbulent pairs. SEKTENSKI, L. N. *Bull. Acad. Sci. URSS. Dep. Sci. Tech.* (No. 3) 271–300 (1947) *In Russian.*—An examination is made of the propagation of turbulent motion in a viscous liquid under the action of two turbulent zones of opposite intensity and symmetrical with reference to the horizontal plane. A solution is attempted on the basis of approximation and two common postulates. From the energy equation of a viscous liquid, a linear equation is developed describing the conditions of flow. The analytic solution is demonstrated by two examples dealing with movement and diffusion around a circular shaft, and the propagation of

vortex movement in a damping liquid from two vortex zones possessing at the commencement a motion around an almost uniform vector vortex. The path of the zone centres is investigated, together with the kinetic energy and turbulence as a function of time and initial conditions.

R. M.

SRETENSKIY, L.N.

Sretensky, L. N. Theory of tides of long period. Bull. Acad. Sci. URSS. Sér. Géograph. Géophys. [Izvestia Akad. Nauk SSSR] 11, 197–270 (1947). (Russian. English summary)

This is primarily an investigation of approximate formulae for the periods of tides on a rotating sphere entirely covered with water, and in polar seas. The author first obtains approximations by expansion in terms of $\beta = 4a^3\omega^2/gh$, where a is the radius of the sphere, ω the angular velocity, and h the depth of the water. In the case of small values of β comparison with Hough's calculations [Philos. Trans. Roy. Soc. London, Ser. A. 189, 201–257 (1897); 191, 139–185 (1898)] and with those of Goldsborough [Proc. London Math. Soc. (2) 14, 31–66 (1914); 207–229 (1915); Proc. Roy. Soc. London. Ser. A. 117, 692–718 (1927)] and Goldsborough and Colborne [Proc. Roy. Soc. London. Ser. A. 126, 1–15 (1929)] shows fair agreement. For large values of β the method adopted is that of asymptotic expansions of integrals of differential equations for large values of the parameter involved in these equations. This method is also applied to the determination of free oscillations of periods less than 12 hours. In the case of polar seas, the author claims that his method is exhaustive and compares well with the results found by Goldsborough by exact integration of the dynamical equations in the case of polar seas of angular radii 14° 30′ and 30°.   L. M. Milne-Thomson.

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＊Lyapunov, A. M. Izbrannye trudy. [Selected Works].
Edited by V. I. Smirnov, with notes by S. N. Bernštein,
L. N. Sretenskii and N. G. Četaev. Izdatel'stvo Aka-
demii Nauk SSSR, 1948. 540 pp.

Source: Mathematical Reviews, 1950   Vol 11   No. 8

SEREMENSKIY, L. N.

Commentary on the Work "Certain Problems Related to the Dirichlet Problems" in the book Lyapunov, A. M. Izbrannyye trudy (Selected Works), Leningrad, Publishing House of the Academy of Sciences USSR, 1948, pp. 457-477.

STRETENSKIY, L. N.

On the Works of S. A. Chaplygin on the Dynamics of Nonholonomic Systems. In the book of S. A. Chaplygin Issledovaniya po dinamike negolonmnykh sistem. (Investigations of the Dynamics of Nonholonomic Systems), Moscow-Leningrad, State Publishing House of Technical Literatrue, 1949, pp. 100-107.

SRETENSKIY, L.N.

Sretenskii, L. N. On annular waves on the surface of a rotating fluid. Izvestiya Akad. Nauk SSSR. Otd. Tehn. Nauk 1949, 5–18 (1949). (Russian)

Periodic annular waves upon the surface of a fluid rotating in a circular cylinder of infinite depth are considered for two cases. In the first case the fluid is rotating as a rigid body, giving a paraboloid as equilibrium surface. The treatment is restricted to small waves and small angular velocities. It is found that the effect of the rotation is to increase the frequencies over those for a nonrotating fluid. The second case considered is one in which the axis is a vortex with circulation Γ (velocity of a particle at distance r is $\Gamma/2r$). To avoid the singularity on the axis the fluid is enclosed between two concentric cylinders. It is found again that the frequency is increased over that for a nonrotating fluid but that the amount of increase decreases as the ratio of the radius of the outer to that of the inner cylinder increases.

J. V. Wehausen (Falls Church, Va.).

Source: Mathematical Reviews,   Vol 10, No. 9

SRETENSKIY, L.N.

Sretenskii, L. N. On the waves generated by an under-
water source under the surface of a sphere. Izvestiya
Akad. Nauk SSSR. Ser. Geograf. Geofiz. 13, 473-496
(1949). (Russian)

The problem considered is the generation of gravity waves
by a source of oscillating strength within a layer of water
covering a solid sphere, the layer being of uniform thickness
when at rest. The usual linearized free boundary condition
is used but the shallow water approximation is not made.
No rotation of the sphere is assumed. The method followed
is to write the velocity potential as a source potential plus
a remainder expanded in a series of Legendre polynomials.
The bulk of the paper is devoted to a detailed study of the
coefficients in the series with the ultimate aim of obtaining
asymptotic formulas for the shape of the free surface. For
the case when the solid core vanishes and the frequency of
oscillation is high, an asymptotic formula for the free sur-
face is given. This result is then extended to the case when
the output of the source is approximately a single square
pulse of short duration. The next case considered is that
when the layer of water is very thin compared to the radius
of the core and the source is at the bottom of the water.
J. V. Wehausen (Providence, R. I.).

SHAMIN, L.A.

Volny. (In: Mekhanika v SSSR za tridtsat' let, 1917-1947. Moskva, Gostekhizdat, 1950. p. 279-299)

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Title tr.: Waves.
                    QA802.M4

30. Aeronautical Science and Aviation in the Soviet Union. Library of
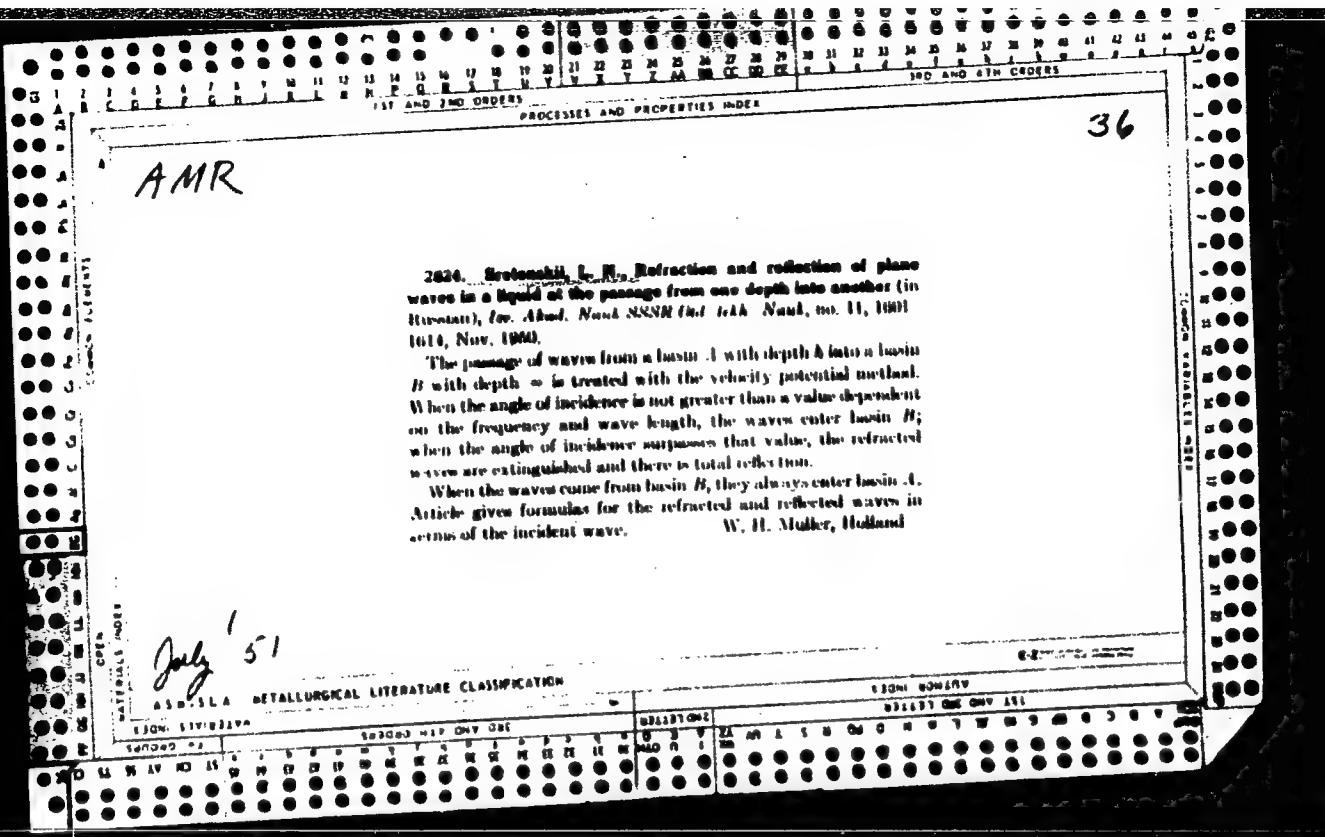   Congress, 1955.

SRETENSKIY, L.N.

Sretenskii, L. N. The plane problem of the propagation of waves in a basin, excited by an underwater source. Izvestiya Akad. Nauk SSSR Otd. Tehn. Nauk 1950, 321–332 (1950). (Russian)

The velocity potential and form of the free surface are derived for a line source of oscillating strength located on the bottom of a long rectangular basin. The problem is treated two-dimensionally and the usual linearized free surface condition is used. Approximate formulas for the free surface are derived for the case when the depth-to-breadth ratio is small. A continuous distribution of sources along an interval of the bottom is also considered and an approximation to the free surface derived. The methods for deriving the approximations follow closely those used in an earlier paper [Izvestiya Akad. Nauk SSSR. Ser. Geograf. Geofiz. 13, 473–496 (1949); these Rev. 11, 480].

J. V. Wehausen (Providence, R. I.).

Source: Mathematical Reviews, 1950 Vol 11 No. 8

AMR

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July '51

2824. Bretonskii, L. M. Refraction and reflection of plane waves in a liquid at the passage from one depth into another (in Russian), *Izv. Akad. Nauk SSSR Otd. Tekh. Nauk*, no. 11, 1601-1614, Nov. 1950.

The passage of waves from a basin A with depth h into a basin B with depth ∞ is treated with the velocity potential method. When the angle of incidence is not greater than a value dependent on the frequency and wave length, the waves enter basin B; when the angle of incidence surpasses that value, the refracted waves are extinguished and there is total reflection.

When the waves come from basin B, they always enter basin A. Article gives formulas for the refracted and reflected waves in terms of the incident wave.   W. H. Muller, Holland

SRETENSKIY, L.N.

Sretenskiĭ, L. N. The oscillation of a fluid in a movable basin. Izvestiya Akad. Nauk SSSR. Otd. Tehn. Nauk 1951, 1483–1494 (1951). (Russian)

The author considers a movable rectangular basin subject to a restoring force proportional to the displacement and filled with a liquid to some fixed depth h. First, the motion of the liquid is determined by assuming a slow harmonic motion for the basin and the linearized theory of gravity waves. From this the force exerted by the liquid upon the basin walls for a given frequency may be computed. The equation of motion of the basin, taking account of this force as well as the restoring force, now leads to an equation for the frequency. This rather complicated equation is studied in some detail. A numerical calculation with selected parameters is carried out for the case when the basin is the weight of a pendulum.   J. V. Wehausen (Providence, R. I.).

Source: Mathematical Reviews,   Vol   13 No. 5

SYRETENSKIY, L. N.

Resolution of the Bessel Function, Considered as a Function of the Index, In a Series According to the Principal Part. Vestn, MGU (Hearald of Moscow State University), 1951, No. 8, seriya fiz-matem i estestv nauk (Physic-Mathematical and Natural Science Series), No. 5, pp. 19-20.

Mathematical Reviews
Vol. 15   No. 1
Jan. 1954
Mechanics

Sretenskiĭ, L. N.   On waves on the surface of separation of two flows of a liquid flowing at an angle to each other. Izvestiya Akad. Nauk SSSR. Otd. Tehn. Nauk 1952, 1782–1787 (1952). (Russian)

Let a fluid of density ρ fill the region $z<0$ and a fluid of density ρ' the region $z>0$. The lower fluid moves with velocity c in the direction OX and the upper fluid with velocity c' in a direction making an angle ϑ with OX. The author investigates gravity waves at the interface $z=0$. For motion with a velocity potential, linearized boundary conditions are derived for the interface. Velocity potentials of the form

$$\Phi = A \exp\left[kz+i(mx+ny)\right], \quad \Phi' = A' \exp\left[-kz+i(mx+ny)\right]$$

are assumed and the resulting interface studied in some detail for its dependence on m and n.   J. V. Wehausen.

SRETLA?A?Y, L. N.

SRETENSKIY, L. N.

Obzor rabot po teorii voln za vremia s 1917 po 1949 gg. (Moscow. Universitet. Uchenye zapiski, 1951, no. 152: Mekhanika, v. III, p. 76-98)

Bibliography: p. 95-98, 82 references.

Title tr.: Survey of works on the wave theory for the period of 1917-1949.

Reviewed by J. V. Wehausen in Mathematical Reviews, 1953, v. 14, no. 5, p. 508.

Q60.M868 1951, no. 152

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

STREPIKEIY, L. N.

Sound Waves

Wave propagation from a scunding disc. Uch. zap.Mosk.un. nc. 154, 1951.

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Mechanics.

Sretenskii, L. N.   The propagation of elastic waves arising
from the motion of a system of normal stresses on the
surface of a half-space.   Trudy Moskov. Mat. Obšč. 1,
167–186 (1952).   (Russian)

L'auteur étudie la propagation des ondes suscitées dans
un demi-espace élastique par un système de tensions super-
ficielles se déplaçant de façon rectiligne avec une vitesse
constante. Tel est le cas des microséismes provoquées par
le déplacement sur la surface terrestre des régions cyclo-
niques ou anticycloniques. En définissant les déplacements
élastiques par les formules $u = u' - \partial\phi/\partial x$, $v = v' - \partial\phi/\partial y$,
$w = w' - \partial\phi/\partial z$ avec ϕ, u', v', w' vérifiant les équations bien
connues $\partial^2\phi/\partial t^2 = (\lambda + 2\mu)\rho^{-1}\Delta\phi$, $\partial u'/\partial x + \partial v'/\partial y + \partial w'/\partial z = 0$,

(OVER)

6/23/54

$\partial^2 u'/\partial t^2 = \mu\rho^{-1}\Delta u'$, $\partial^2 v'/\partial t^2 = \mu\rho^{-1}\Delta v'$, $\partial^2 w'/\partial t^2 = \mu\rho^{-1}\Delta w'$ et en donnant au tenseur de la tension la forme

$$X_x = -\lambda\Delta\phi - 2\mu\frac{\partial^2\phi}{\partial x^2} + 2\mu\frac{\partial u'}{\partial x}, \cdots,$$

$$Y_z = Z_y = -2\mu\frac{\partial^2\phi}{\partial y\partial z} + \mu\left(\frac{\partial w'}{\partial y} + \frac{\partial v'}{\partial z}\right), \cdots,$$

l'auteur cherche les solutions élémentaires sous la forme

$$\phi = D\exp\left[i(kx+my+\alpha t)+\gamma z\right],$$
$$u' = A\exp\left[i(kx+my+\alpha t)+sz\right], \cdots,$$

Les conditions superficielles

$$X_z = 0, \quad Y_z = 0, \quad Z_z = f\exp\left[i(kx+my+\alpha t)\right]$$

permettent de mener les calculs jusqu'au bout. L'auteur étudie le cas de tensions localisées dans une bande parallèle à l'axe des abscisses et le cas du système de pressions $P = T$ pour $(-ct-a < x < -ct+a)$ et nulle partout ailleurs. Dans tous ces cas on peut calculer les déplacements superficielles à une distance suffisamment grande de la trajectoire du système donné des tensions normales. *V. A. Kostitsin.*

SRETENSKIY, L.N.

USSR/Engineering - Hydraulics, Oscillatory May 52
Waves

"On a Method for Determining Waves of Finite Am-
plitude," L. N. Sretenskiy, Corr Mem, Acad Sci
USSR

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5, pp 688-698

Develops eq for profile of steady waves of finite
amplitude, formula for velocity of these waves and
determines surface undulatory flow. All rela-
tions of the theory of waves and main phenomena of
this theory were obtained on basis of G. G.Stokes'
method improved by author. New approach to soln

of numerous problems from theory of undulatory
motions of fluids helps to make corrections which
are necessary due to nonlinear character of boundary
conditions.

219T36

219T36

SRETENSKIY, L.N.

403. Sretenskii, L. N., Motion of the Goryachev-Chapligin gyroscope (in Russian), *Izv. Akad. Nauk SSSR Otd. tekh. Nauk* no. 1, 100–110, Jan. 1953.

The problem of motion under gravity of a body, one of whose points O is fixed, has been solved by Euler (when the fixed point O is the center of gravity of the body), Lagrange (when two of the principal moments of inertia at the point O are equal, i.e., $A = B$, and the center of gravity lies on the third axis of inertia of the body), and Mme. Kovalevskii (when $A = B = 2C$ and when, further, the center of gravity is situated in the plane of the equal moments of inertia). In each of these cases the general solution contains five arbitrary constants of integration. Goryachev [*Mat. Sbornik* 21, 431–438, 1880] showed that the problem is also solvable when $A = B = 4C$, the center of gravity is in the plane of equal moments of inertia at O, and when, further, the angular momentum about the vertical through O is zero. In this case the solution contains three arbitrary constants. Finally, Chapligin [*Trav. Soc. Imp. Nat. Mosc.* 10, fasc. 2, 31–34, 1899 = Collected Works, Moscow-Leningrad, Izd. Tekh. Teor. Lit., 1948, vol. I] showed that, under the assumptions made by Goryachev, another particular integral exists, and hence there exists a solution depending upon four arbitrary constants.

Let the line through the fixed point O and the center of gravity be taken as the Ox-axis, and let the center of gravity be at the distance α from O; let the Eulerian angles ϵ, ω, φ, which define the position of the principal axes of inertia $Oxyz$ with reference to fixed rectangular axes $OXYZ$, of which the axis OZ is vertical, be defined as follows: ϵ is the angle between the axes OZ and Ox, ω is the angle between OX-axis and the line of intersection Oy of the planes XOY and yOz, and φ is the angle between Oy and Oy-axis. Further, let p, q, r be the components along the axes $Oxyz$ of the angular velocity of the body, and let P be its weight.

The aut. investigates the motion of the Goryachev-Chapligin gyroscope assuming that initially: (1) The axes OX and Oz coincide, while the axes Oy and Oz make with the axes OY and OZ, respectively, an angle θ_0, and (2) that a large spin is given about the Ox-axis to the body, i.e., $p = p_0$, $q = r = 0$, where p_0 is large. The results obtained may be summed up as follows: The amplitudes of the oscillations of $\cos \epsilon$ vary in such a way as to produce beats. The period of the beats is $4\pi p_0/3\alpha$, while the period of the small oscillations, constituting the beats, is π/p_0, where $\alpha = Pa/C$. The axis of the gyroscope, performing the above-mentioned oscillations, passes through the equatorial plane of the fixed sphere of radius one described about O at times $t_n = 4p_0/3\alpha$ $(n\pi - \lambda \sin \theta_0)$, $t_m = 1/p_0$ $(m\pi - \theta_0)$, where $\lambda = \alpha/2p_0{}^2$ and n, $m = 0$, ± 1, ± 2, . . .

At each of these instants, the angle changes the sense of its variation, i.e., it passes from an increasing angle to a decreasing one, and conversely. In addition, ω attains its relative extremum values at times $t_n' = t_n + 4\pi p_0/6\alpha$.

The angle φ varies almost proportionally to the time with velocity p_0 near the instants t_n, when the axis of the gyroscope is horizontal. Near the instants of time corresponding to maximum inclinations of the axis of the gyroscope to the equator of the fixed sphere, the angle φ changes the sense of its variation.

E. Leimanis, Canada

3-2-55   LL

STR...I... ...IY, ...

Engineers

Scientific creativeness of S. A. Chaplygin. On the 10th anniversary of his death.
Izv. AN SSSR. Otd. tekh. nauk No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

SRETENSKIY, L. N.

USSR/Engineering - Hydraulics, Wave .   Apr 53   /
                    .   Theory

"Finite Amplitude Waves Caused by Periodically Dis-
tributed Pressure," L. N. Sretenskiy, Corr Mb Acad
Sci USSR

Iz Ak Nauk, OTN No 4, pp 505-511

Develops method of joint use of Euler and Lagrange
variables which, according to author, simplifies
solution of various problems of wave theory. In
particular, this method permits to find wave motions,

276T40

occurring from periodically distributed pressures,
and also makes it possible to determine entire flow
of liquid in case which can not be studied by meth-
ods of theory of infinitesimal waves.

SRETENSKIY, L. N.

Among the papers presented by the First All-Union Conference on
Aerohydrodynamics (8-13 Dec 1952) convened by the Institute of
Mechanics, Academy of Sciences USSR, was:

"Spatial Steady State Waves of Finite Amplitude" by Sretenskiy, L. N.

SO: Izvestiya AN USSR, Otdeleniye Tekhnicheskikh Nauk, No.6, Moscow,
      June 1953, (W-30662, 12 July 1954)

SRETENSKIY, L. N.   Cor, Mbr. AS USSR

"Waves of Finite Amplitude on the Surface of a Three-Dimensional Flow," report given at the All-University Scientific Conference "Lomonosov Lectures", Vest. Mosk. Un., No.8, 1953.

Translation U-7895, 1 Mar 56

SRETENSKIY, L.N.

Motion of three points on rotating orbits. Vest.Mosk.un. 8 no.2:15-19 F
'53.   (MLRA 6:5)

1. Kafedra gidromekhaniki.   (Problem of three bodies)

SRETENSKIY, L. N.

"Comments on the Posthumous Work of N. N. Luzin on the Integration of the Equations of Buckling of the Surfaces on the Principal Basis," Usp. mat. Nauk, Vol.8, No.2 (54), pp 75-82, 1953

Written on the third anniversary of N. N. Luzin's death. An editorial note states that certain unpublished manuscripts of N.N.Luzin will appear in this journal, with articles on his works.   250T83

SRETENSKIY, L.V.

PETROVSKIY, I.G.; VOVCHENKO, G.D.; SALISHCHEV, K.A.; SERGEYEV, E.M.;
        MOSKVITIN, V.V.; SRETENSKIY, L.V.; GEL'FOND, A.D.; GOLUBEV, V.V.;
        ALEKSANDROV, P.S.; SOBOLEV, S.L.; BAKHVALOV, S.B.; OGUBALOV, P.M.;
        KREYNES, M.A.; MYASNIKOV, P.V.; ZHIDKOV, M.P.; GAL'PERN, S.A.;
        ZHEGALKINA-SLUDSKAYA, M.A.

        Vsevolod Aleksandrovich Kudriavtsev; obituary. Vest.Mosk.un. 8
        no.12:129 D '53.   (MLRA 7:2)
                    (Kudriavtsev, Vsevolod Aleksandrovich, 1885-1953)

CRITICKY,

Mathematical Reviews
Vol. 15   No. 1
Jan. 1954
Mechanics

Applied Mech. Reviews
V. 7, Mar 1954

Sretenskii, L. N. Spatial problem of determination of steady waves of finite amplitude. Doklady Akad. Nauk SSSR (N.S.) 80, 25–28 (1953). (Russian)

The author considers three-dimensional progressive waves of finite amplitude in infinitely deep water. He assumes a velocity potential of the form

$$\varphi(x, y, z) = -cx$$
$$+ \{a_{11} \exp k_{11} z \cos ny + a_{13} \exp k_{13} z \cos 3ny + \cdots\} \sin mx$$
$$+ \{a_{20} \exp 2k_{20} z + a_{22} \exp 2k_{22} z \cos 2ny + \cdots\} \sin 2mx + \cdots,$$

expands the a_{ij} and coordinates (Lagrangian) in powers of a small parameter ϵ, substitutes in Bernoulli's equation, compares coefficients, etc. He finally obtains equations which can be used to relate the wave velocity, amplitude, and lengths in the two directions. There is mass transport as for plane waves. [Cf. Fuchs Gravity waves, pp. 187–200, Nat. Bur. Standards Circular 521, Washington, D. C., 1952; these Rev. 14, 1028.]   J. V. Wehausen.

SRETENSKIY, L. N.

USSR/Physics - Hydrodynamics   1 Jul 53

"Problem of Turbulence in a Wave," A. A.
Dmitriyev and T. V. Bonchkovskaya

DAN SSSR, Vol 91, No 1, pp 31-33

Solve the system of eqs set up by L. N. Sretenskiy
(Trudy TsAGI /Works of the Central Aerohydro-
dynamical Institute/, No 541, Part 1 (1941)), for
the movement of a viscous liquid under the in-
fluence of wind currents and sea-bottom friction.
State that turbulence of waves has received little
study, according to the literature. Presented by
Acad V. V. Shuleykin 20 Apr 53.

266T93

LYAPUNOV, A.M.; SRETENSKIY, L.N., otvetstvennyy redaktor; KOLMOGOROV, A.M., akademik; SMIRNOV, V.I., akademik; SUBBOTIN, M.F.; ISHLINSKIY, A.Yu.; MIGIRENKO, G.S., kandidat fizicheskikh-matematicheskikh nauk; PETKE-VICH, V.V., kandidat fizicheskikh-matematicheskikh nauk; GERMOGENOV, A.V., redaktor; ALEKSEYEVA, T.V., tekhnicheskiy redaktor.

[Collected works] Sobranie sochinenii. Moskva, Izd-vo Akademii nauk SSSR. Vol. 1. 1954. 446 p.   (MLRA 7:11)

1. Chlen-korrespondent Akademii nauk SSSR (for Sretenskiy and Subbo-tin) 2. Deystvitel'nyy chlen Akademii nauk SSSR (for Izhlinskiy) (Liapunov, Aleksandr Mikhailovich, 1857-1918) (Mathematics)

FD 348

USSR/Geophysics - Sound propagation

Card 1/1

Author   : Sretenskiy, L. N.

Title   : Propagation of sound in an isothermic atmosphere

Periodical : Izv. AN SSSR, Ser. geofiz. 2, 134-142, Mar/Apr 1954

Abstract   : Treats the problem concerning the propagation in the atmosphere of the
               sound from a point source taking into account the force of gravity. By
               means of the Fourier-Bessel integral the author constructs the potential
               of the acoustic field for which he obtains asymptotic expressions convenient
               for the case of great distances from the source. No references.

Institution : Marine Hydrophysics Institute, Acad Sci USSR

Submitted   : November 6, 1953

SOV/124-57-7-7931

AUTHOR: Sretenskiy, L.N.

TITLE: Motion of a Vibrator Underneath the Surface of a Liquid (Dvizheniye vibratora pod poverkhnost'yu zhidkosti)

PERIODICAL: Tr. Mosk. matem. o-va, 1954, Vol 3, pp 3-14

ABSTRACT: Investigation is made of the problem of the motion caused by a pulsating source underneath the surface of a heavy liquid of infinite depth. This problem was investigated for both the spatial and the two-dimensional cases in the work of the reviewer (Prikl. matem. i mekhanika, 1946; RZhMekh., 1956, abstract 1491). With respect to the spatial case the author treats in greater detail the asymptotic aspect of the disturbed surface of the liquid at great distances from the source.

M. D. Khaskind

Card 1/1

Sretenskiy, L. N.

USSR/Mathematics

Card 1/1   Pub. 22 - 5/47

Authors   : Sretenskiy, L. N., member corresp. of the Acad. of Scs. of the USSR

Title   : About the soleness of determination of the shape of an attracting body from
               the values of its outer potentials

Periodical   : Dok. AN SSSR 99/1, 21-22, Nov 1, 1954

Abstract   : Referring to Novikov's lemma and theorem, dealing with the shape determina-
               tion of attracting bodies (published in 1938), the author describes his own
               method, based on the Novikov lemma, of the soleness in determination of the
               shape of an attracting body strictly from the values of outer potentials of
               the latter. One reference (1938).

Institution : Navy Hydro-Physical Institute of the Acad. of Scs. of the USSR

Submitted   : ...

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USSR/Geophysics - Surface of separation   FP-2691

Card 1/1   Pub. 45 - 2/11

Author   : Sretenskiy, L. N.

Title   : Cauchy-Poisson problem for the surface of separation of two flowing
                 streams

Periodical   : Izv. AN SSSR, Ser. geofiz., Nov-Dec 1955, 505-513

Abstract   : The author considers the problem of the gravitational waves that
                 arise on the horizontal surface of separation of two flowing
                 fluids. He studies in detail the particular case of given initial
                 disturbance. No references or acknowledgements.

Institution   : Marine Hydrophysics Institute, Academy of Sciences of the USSR

Submitted   : July 22, 1955

SRETENSKIY, L. N.

The Formation of Regular Sequences of Waves. In the book: tezisy dokladov mekhaniko-matematicheskogo fakul-tete Moskovsk un-ta (Thesis of Reports of the Mechanico-Mathematical Faculty of Moscow Institute), Moscow, Moscow State University, 1955, p. 16. (Jubilee Scientific Session Dedicated to the 200th Anniversary of the University, 9-13 May 1955).

SRETENSKIY, L.N.

Occurence of waves of terminal amplitude in a round canal. Trudy
MGI 6:3-9 '55. (Waves) (MLRA 9:6)

SRETENSKIY, L.N

Distr: 4E4f
925. Sretenskii, L. N., Cauchy-Poisson problem for the separation surface of two flow surfaces (in Russian), Izv. Akad. Nauk SSSR, Ser. geofiz. no. 6, 505-513, 1955; Ref. Zb. Mekh. 1956; Rev, 5193.

First of all a class of particular solutions of the Laplace equation is sought

$$\varphi_1(x, y, t) = F_1(t)\, e^{k\,(y + ix)},$$

$$\eta = kH(t)\, e^{ikx}$$

$$q\;\varphi_2(x, y, t) = F_2(t)\, e^{-k(y - ix)},$$

which satisfy the conditions for union of the pressures on the division line of the flows and also kinematic conditions. Here φ_1 and φ_2 are the velocity potentials of the upper and lower flows, $\eta = \eta(x)$ is the division line. The functions which were found are used for construction of the Fourier integral which gives a formal solution of the Cauchy-Poisson problem in the form

$$\varphi_1(x, 0, 0) = f_1(x) \quad \varphi_2(x, 0, 0) = f_2(x)$$

The integral found is convergent at very strict limitations, which were imposed on the character of the tendency to zero of the functions f_1 and f_2 at $|x| \to 0$. The detailed analysis is given for the case when

$$f_1(x) = e^{-b^2 x^2}, \quad f_2(x) = 0$$

STRETENSKIY, L. N.

Potential Theory. BSE, Second Edition, Vol. 34, 1955, pp. 272-273, Figs.
Bibliogrpahy of 4 Titles.

CZRETENSKIY, L. N.

On Two Prolbmes Relating to the Theory of Faseous Jets. IX International Congress of Applied Mechanics. Brussels. 1956. Book of Abstracts. Section I p. 148. Paralled Text in French.

LYAPUNOV, Aleksandr Mikhaylovich, akademik; SRETENSKIY, L.N., redakter;
     KOLMOGOROV, A.N., akademik, redaktor; SMIRNOV, V.I., akademik,
     redaktor; SUBBOTIN, M.F., redaktor; ISHLINSKIY, A.Yu., redaktor;
     MIGIRENKO, G.S., kandidat fiz.-mat. nauk, redaktor; PETKEVICH, .
     V.V., kandidat fiz.-mat. nauk, redaktor; KIRNARSKAYA, A.A., tekhni-
     cheskiy redaktor.

[Collected works] Sobranie sochinenii. Moskva, Izd-vo Akademii
nauk SSSR. Vol.2. 1956. 472 p.   (MLRA 9:6)

1.Chlen-korrespondent AN SSSR (for Sretenskiy, Subbotin).
2.Deystvitel'nyy chlen AN USSR (for Ishlinskiy)
          (Dynamics) (Differential equations)

SRETENSKIY, L.N.

Excitation of elastic oscillations of a semiplane by wave motions
of a liquid. Biul.Sov.po seism.no.2:12-26 '56.   (MIRA 9:9)
(Tidal waves)

SRETENSKIY, L.N.

534.232

Emission of Sound by a Rotating Dipole. L. N.
Sretenski. (Akust. Zh., Jan.–March 1956, Vol. 2, No. 1,
pp. 93–98.) A theoretical paper.

3266

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SRTENSKIY, L.N.

SRETENSIY, L. N.

2246. **Sretenskii, L. N.**, Directional propagation of waves from a region undergoing external pressure changes (in Russian), *Prikl. Mat. Mekh.* 20, 3, 349-361, May-June 1956.

Paper is a thorough analysis of wave action in horizontal directions in an infinitely deep mass of a fluid subjected in a limited part of its surface to pressure changing its intensity with time in accordance with laws of harmonic motion. Theoretical investigations are based on the assumption that the potential of velocity $\varphi(x, y, z, t)$ complies with Laplace equation for both extreme conditions (for surface $z = 0$, and for infinite depth $z = -\infty$). Reference is made to Whittaker, E. T., and Watson, G. N., "A course of modern analysis," par. 94. See also Whittaker, E. T., "A treatise on the analytical dynamics of particles and rigid bodies," Dover Publications, New York, 1944.   J. J. Polivka, USA

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4E5d

SAKURAI, L.C.
Univ. Moscow

"Sur La Resistance Due Aux Vapels D'un Fluide Visqueux,"
paper submitted at Symposium on Behavior of Ship in a Seaway, Wageningen,
Netherlands, 7-10 Sep 57.